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ABSTRACT

Numerous studies indicate that an individual's perception of internal or external control over life events ("perceived locus of control") is a personality variable that influences the perception of a situation as threatening or stress-inducing. Whether for reasons of personality or because of "situational powerlessness," the more powerless an individual feels, the higher will be the level of stress. Statistical analysis of results of a questionnaire survey of 302 principals in 2 western New York counties suggests that principals have a strong internally oriented perceived locus of control and experience low degrees of situational powerlessness as well as relatively low levels of stress. Results also indicate that women tend to perceive less stress than men and that principals who exhibit low internality are more adversely affected by job stress than are those who evidence high internality. Schools may thus do well to hire internally oriented individuals and women as principals. Greater participation in decision-making, plus counseling programs that prepare principals for on-the-job situations, may alleviate stress. (JBM)

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OCCUPATIONAL STRESS AS AFFECTED BY LOCUS OF CONTROL AND SITUATIONAL POWERLESSNESS

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INTRODUCTION

Occupational stress has become a major concern of individuals and the organizations which employ them. This interest has become widespread during the past decade. The estimated costs to national health both in terms of human and material resources are sobering. Figures from the U.S. National Clearing House for Mental Health Information conservatively reported a $17 billion decrease in the productive capacity of employees due to stress related causes.[1] Other sources[2] place this cost much higher, at approximately $75-90 billion annually, which equates to nearly ten percent of the United States' yearly gross national production output. These monetary figures reflect only the economic price of mental and physical problems arising from stress. They say nothing about the intangible consequences of stress for the quality of life.

Tung and Koch's (1980) research[3] clearly indicates that stress is also a major concern for educational managers. In a study conducted in Oregon, they received an exceptionally high return rate of usable responses (62.5%) from a questionnaire mailed to almost nineteen hundred school administrators. Their findings reveal that three-fourths of the school administrators felt that most of their stress could be attributed to their work. Certainly, this high rate and kind of response suggests that stress is especially a serious issue for school managers at all levels from vice principals up through superintendents.

In educational organizations, the administrator who is most intimately connected to, and responsible for, the quality of

educational experiences provided by the school is the building principal. Anything that detracts from the school organization's ability to provide the best possible educational services becomes the immediate and daily concern of the principal. It is this individual who must try to look beyond the obvious symptoms of stress, and identify, understand and ameliorate its contributory factors. However, this search must originate within the principal; for in order to be able to deal with stress in others, the effective principal should be aware of evidences and sources of it in himself or herself. Therefore, the variables which produce job stress and contribute to its debilitating effects are both an administrative and personal concern for the school principal.

In examining the origins of stress, a great deal of the research focuses on the factors affecting it in a social or situational context.[4] The constructs of role conflict and ambiguity are also seen to be significant aspects of job stress.[5] Moreover, there is a growing body of evidence which suggests that the principal's locus of control, and the degree of situational powerlessness he or she feels with respect to their job, are important variables which significantly influence the level of occupational stress the principal perceives. For this study, occupational stress is defined as an experience arising from a perceptual comparison between an excess of work-related demands over an individual's perceived capability, power and motivation to meet these demands, when failure to respond to them has significant perceived consequences.[6] Thus, while the

kinds of demands and extent of job stress experienced by principals may vary between districts, and even among schools in the same district, an investigation of the roles played by locus of control and situational powerlessness is essential in understanding job stress with respect to school principals in all settings and on every building level.

Yet in spite of the work already done on locus of control and on the effects of situational powerlessness in contributing to occupational stress, theoretical knowledge is still limited.[7] Only a handful of studies have actually dealt with the relationship of locus of control to occupational stress. Almost all the animal and human experiments involving powerlessness have examined test subjects in carefully contrived, non-occupationally related situations that do not resemble school organizations. In addition, as Swent and Gmelch (1977) conclude, that although over 80,000 articles have been written about stress and every year 6,000 more are catalogued under the heading of stress, there has been very little research done concerning the perceptions of educational administrators on the sources and extent of job-related stress.[8] Therefore, these facts suggest there is a critical need to examine the effects of locus of control and situational powerlessness on occupational stress with regard to school principals in actual work settings.

OVERVIEW

The variable of locus of control is a theoretical construct which deals with an individual's perceptual expectancy for control over life's events in general.[9] As such, it can be assessed as a general personality variable; and it may be anticipated to differ in degree from one individual to the next depending upon one's past history of reinforcement. Numerous studies[10] indicate that locus of control is not a dichotomous variable that is evidenced only in absolutes of one orientation (internal) or another (external). Rather, the construct is multidimensional in nature; and each person may exhibit a combination or blend of its dimensions simultaneously. However, one orientation usually predominates to a greater degree relative to the other.

Valecha (1981) and Steers (1981) suggest that those persons who occupy managerial positions in organizations are more likely to exhibit the characteristics associated with an overall, internally-oriented locus of control.[11] Research by Dohrenwend and Dohrenwend (1974) and several others[12] also indicate that the degree to which an individual perceives himself or herself as having control over events may be an important factor in perceiving whether a situation is threatening or stress-inducing.

Studies by Kahn et al. (1964), French and Caplan (1972) and Cooper and Payne (1978) have also noted that the organizational role an individual fulfills has a substantial influence on the amount of stress that person senses in certain situations.[13] Furthermore, there is much research evidence[14] to suggest that organization managers often experience high stress if they are

in situations where they perceive themselves to lack power over their assigned tasks, and where burdensome constraints are imposed on their decision-making power by their superiors, or by the inflexibility of the organization hierarchy. These findings clearly imply this "situational powerlessness" creates differences in the overall stressful quality of organization life. It seems the more powerlessness felt by the individual, the less his or her tolerance for uncertainty, conflict and ambiguity.

A principal who perceives himself or herself to be powerless will feel discouragement and frustration. This can lead to disruptions in relations with superiors and breakdowns in communication patterns in the organization hierarchy. Additionally, these disjunctions in social ties can spill into professional and personal associations with subordinates and negatively affect the relationship between the principal and teaching staff, as well as with the community. In turn, this dissonance creates what Lyons (1971) terms "interaction conflicts," and can lead to low job satisfaction, a high level of job stress and ultimately, if it persists, a strong propensity to leave the organization.[15] Therefore, the literature suggests, the more powerlessness a principal perceives in his or her work situation, the higher the level of occupational stress he or she will experience.

Turner and Lawrence (1965) and Hulin and Blood (1968) indicate that organizational setting may be a moderating factor on occupational stress.[16] The image of the beleaguered urban, school principal, grappling with the complexities and stresses of managing an inner city educational organization, is often

contrasted in the popular literature with the more placid job-style of his suburban or rural counterparts. Also, the commonly accepted notion that larger, more bureaucratic school organizations may create conditions for potentially higher levels of occupational stress for the principal,[17] bears closer scrutiny. Additionally, the reality that women are now entering the ranks of educational administrators in increasing numbers, requires an examination of their perceptions of job-related stress. If, as the research of Kahn et al. (1964) and Ivancevich and Matteson (1980) suggest that females traditionally experience generally lower levels of stress than males and are better able to cope with it,[18] then this finding has important implications for the recruitment and placement of women for school principalships. Finally, given the current focus and volume of popular literature on the impact of stress in educational organizations, we should expect to see high levels of it perceived by principals, who occupy what is commonly regarded as a highly complex and demanding work role in education. A closer examination of the frequency and persistency of stressful situations perceived by these individuals should provide descriptive data against which the assumptions of popular literature may be measured.

Therefore, the purpose of this study was to explore the impact of perceived locus of control and situational powerlessness on the level of occupational stress felt by public school principals. Specifically, three major hypotheses were examined:

H_1: As a group, principals have a predominantly internally-oriented perceived locus of control.

H_2: The degree of internality (perceived locus of control) is inversely related to the level of perceived occupational stress for principals.

H_3: The degree of perceived situational powerlessness is directly related to the level of perceived occupational stress for principals.

The extent to which the above relationships were significantly mediated by the variables of school setting (i.e. urban, suburban or rural), building level (i.e. elementary or secondary), and gender of the principal, was also evaluated. In this regard, several research questions were posed:

Q_1: Will male principals exhibit greater internality (perceived locus of control) than female principals?

Q_2: Will urban principals perceive higher levels of occupational stress than suburban or rural principals?

Q_3: Will suburban principals perceive higher levels of occupational stress than rural principals?

Q_4: Will secondary principals perceive higher levels of occupational stress than elementary principals?

Q_5: Will male principals perceive higher levels of occupational stress than female principals?

Q_6: Will the setting of the school, building level, or gender affect the inverse relationship between degree of internality and the level of occupational stress for the principals?

Q_7: Will the setting of the school, building level, or gender affect the direct relationship between the degree of perceived situational powerlessness and the level of perceived occupational stress for principals?

In addition, the study gathered descriptive data from principals specifically in regard to their perceptions of the frequency and persistency of occupational stress in their work roles.

METHODOLOGY

The population, instrumentation and statistical analysis procedures for this descriptive study are discussed in this section. An analysis of the data is also presented.

Population and Survey

The population for this study consisted of all elementary and secondary public school principals in forty school districts of two counties located in Western New York. The total population includes 302 school principals. These principals' districts encompass a broad spectrum of socio-economic levels in a variety of settings: urban, white collar suburban; blue collar suburban; and rural communities. Overall, these districts are representative of the diverse kinds of central, union free and city school districts located throughout New York State.

The principals were surveyed by mail to their schools using a printed questionnaire containing three self-report instruments, two items assessing the overall frequency and persistency of stress in the workplace, and also including three items asking

for specific demographic information on the setting and building level of the school, and the gender of the principal. A self-nomination procedure was used as the basis for categorizing the setting of the school as urban, suburban or rural. The variable of building level was categorized as elementary or secondary based upon Hageny's classification,[19] and also on a self-nomination basis by the principals. Enclosed with the questionnaire was a cover letter indicating the general subject of the study, the estimated time required to complete the questionnaire, and its potential research value to the study. Also included was a stamped, self-addressed return envelope to facilitate the principals' response.

Approximately ten to fifteen days after the date of the initial mailing, a follow-up letter was sent to each non-respondent. The total return rate of all survey responses was 212, or 70.2% of the population. Of the surveys returned, fourteen were excluded from statistical analyses because of minimum/missing data tests. The final number and percentage of valid cases used in this study was 198, representing 65.6% of the total population surveyed. The high return rate of usable responses clearly indicates a high topical interest on the part of school principals in the phenomenon of job stress.

Of the respondents, 43% work in urban settings, approximately 42% in suburban settings, and almost 15% in rural settings. Over 65% of the respondents were elementary principals. The sex ratio revealed that male principals outnumbered females by about six and one-half to one. By far, the largest number of respondents

were male suburban principals, followed by male urban and male rural principals, respectively. Male elementary principals were the most numerous of the respondents, comprising exactly 50% of the total participants. These distributions were representative of the overall population of principals in the two counties surveyed.

Instrumentation

One comprehensive questionnaire encompassing three self-report instruments was used to gather data. These three instruments were: Levenson's I-P-C Scale; Aiken and Hage's Index of Hierarchy of Authority; and Kahn et al. Job-Related Tension Index.[20] The latter two instruments were modified slightly for the purposes of this study so as to better reflect educational organizations. This was accomplished by replacing such words as "superior" with "superintendent," or "work" with "administrative position." These modifications, which do not effect the original meaning of the instruments' items, were done in the same manner as Poppenhagen's extensive survey questionnaire,[21] in order to give added relevance to the instruments for the participants.

The I-P-C Scale was used to measure the independent variable of perceived locus of control. This instrument consists of twenty-four items arranged in a six point, Likert-type scale with choices of responses ranging from "strongly agree" to "strongly disagree." The principals were asked to indicate the extent of their agreement or disagreement with each statement that was given. The items in this scale are divided equally among the three dimensions (Internal,

Powerful Others, or Chance) of personality with respect to expectancy for control. In addition, the specific content areas expressed in the items are counterbalanced as as to appear equally for all three subscales. Thus, this scale includes a significant level of parallelism in content among each of the eight triads of statements.

The scoring system on the I-P-C Scale is designed so that each respondent gets a score on each of the three subscales. To avoid negative raw scores, 24 is arbitrarily added to each subscale score, making the total range, 0-48. A high subscale score relates to a high belief in that particular orientation; while a low score indicates a low belief or expectation in that orientation. Multiple t tests indicated the I-P-C Scale had high internal consistency within subscales. Levenson reported that correlations among the three subscales indicated that the P and C subscales correlated significantly with each other ($r = .59$, $p > .01$), and both were negatively related to the I subscale ($rs = -.14, -.17$ns). Her testing showed the I-P-C Scale to have a 1-week, test-retest reliability of .64, and a split-half (Spearman-Brown) reliability of .62.

The Index of Hierarchy of Authority was employed to measure the independent variable of situational powerlessness. This scale is composed of five questions, each beginning with the phrase, "How often do you feel," and completed by describing a situation of perceived powerlessness. The principals' responses could vary from 1 (rarely) to 5 (almost always) on this forced-choice scale. The index score is derived by summing the responses, with the

total divided by the number of items answered. The higher the score, the greater the degree of perceived situational powerlessness suggested by the respondent's answers. The items of the index were chosen by Aiken and Hage in accordance with a major components factor analysis of twenty-one items in Hall's hierarchy of authority and rules battery test.[22] The original four point scale was expanded to five choices to encourage greater dispersion of responses. Aiken and Hage indicated a positive correlation ($r = .49$) between restricted autonomy or latitude for decisions and alienation from work, especially as it affected interpersonal relations between superiors and subordinates. Test-retest reliability was not included; however, Aiken and Hage suggested the index was applicable to organizations where most employees have some kind of professional training.

The Index of Job-Related Tension was used to measure the dependent variable of perceived occupational stress. This scale consists of fourteen items that have been arranged in a format similar to that used for Aiken and Hage's Index to facilitate analysis. Each of the statements begins with the phrase "How often do you ..." and ends with a description that reflects the principals' perceptions of tension-producing, stressful conditions in the workplace. Responses on this scale may range from 1 (rarely) to 5 (almost always) with the higher score suggesting a greater degree of perceived occupational stress. The index score is obtained by adding responses across items, with the total divided by the number of items answered. Kahn et al. reported the split-half reliability coefficient of the measure is .72; and that

correlations among the items making up the index, as well as the total index score, were generally similar for both their national and intensive studies. Poppenhager presents further evidence substantiating the reliability and validity of this scale when adapted in this manner for use with school administrators.[23]

Two items on the questionnaire were added at the end of the three instruments to gather descriptive data from the principals on their assessment of the overall frequency and persistency of stress in their job. Also, three items were included, separate from the instruments, which were designed to obtain information on the mediating variables of setting, building level and gender.

Statistical Procedures

Responses recorded on the instruments were scored in accordance with the techniques of each instrument and the procedures noted earlier. In order to enhance the variability among scores, the data were mathematically expanded to achieve a range of scores on the I-P-C subscales, Index of Hierarchy of Authority, and Job-Related Tension Index, from a low of zero to a high of 100. Also, for the purposes of this study, the composite perceived locus of control score was computed by dividing the sum of the P and C subscales by two, and then subtracting the result from the I subscale score. The composite locus of control score of 0 on the continuum suggests a theoretical neutral blend between the two dimensions reflecting externality (P and C) and the dimension suggesting internality (I), with decreasing scores toward -100 indicating growing externality of the respondents and scores

approaching +100 indicating increasing internality.

Since this study was a descriptive survey of the population of principals in two counties, overall means and standard deviations for all scores on each of the three instruments were computed, as well as the means and standard deviations categorized by school setting, building level and gender. Pearson product-moment correlations were calculated to measure the strength of the relationship between each of the independent variables (perceived locus of control and situational powerlessness) and the dependent variable of perceived occupational stress. Analyses of variance and covariance were performed on all the distributions of data by cell groups.

The relationship of each of the independent variables with occupational stress when controlling for two and three-way interactions of the mediating variables, was examined using stepwise multiple regression analysis. An F-ratio was used to determine if each mediating variable or combination of variables accounted for a significant variance in the relationship. Tests of significance of departure from linearity of the relationships among the major variables using polynomial regression and curve-fitting were employed. Formulas for the best fitting lines were computed; and scatter plots of the interaction between the major variables were drawn with best fitting curves superimposed.

Data Analysis and Findings

The means, medians, standard deviations and correlations for the variables of perceived locus of control, situational powerlessness and occupational stress are presented in Table 1.

TABLE 1

MEANS, MEDIANS, STANDARD DEVIATIONS AND CORRELATIONS
FOR VARIABLES OF PERCEIVED LOCUS OF CONTROL,
SITUATIONAL POWERLESSNESS AND OCCUPATIONAL STRESS

Variable[1]	Mean	Median	SD	Internality (Locus of Control)	Situational Powerlessness	Occupational Stress
Locus of Control	44.0	43.1	18.8	...	-.29**	-.28**
Situational Powerlessness	21.2	15.9	18.6	-.29**	...	.61**
Occupational Stress	20.8	19.8	13.2	-.28**	.61**	...

**p < .01

[1]The following are the Min.-Max. Range of respondents' scores for each variable:

Locus of Control	-12.5 - 85.4
Situational Powerlessness	0.0 - 75.0
Occupational Stress	0.0 - 62.5

It is important to note that the correlations between either locus of control or situational powerlessness, and occupational stress were consistent with expectations. Also significant is the fact that the mean composite score for locus of control was indicative of a high degree of internality on the part of the principals. The low level of stress shown in Table 1 was seen to be a somewhat surprising finding.

Locus of Control

The data provided in Table 1 suggest that the principals, as a group, have a strong internally-oriented, perceived locus of control. By the very nature of their role, principals are expected to be the kind of individuals who are educational managers capable of making independent decisions that direct and influence the school organizations for which they are responsible. The findings indicate that the principals believe some form of purposeful, directed control generally governs events in their lives; and they perceive themselves as the individuals who are "in control."

Correlations among the three subscales of the I-P-C Scale, indicated that the P and C subscales are correlated significantly with each other ($r = .51$, $p < .01$), and are negatively related to the I subscale ($r = -.02$ and $r = -.24$, $p < .01$ respectively). The interactions among all three mediating variables and perceived locus of control were also examined. However, analysis of variance (ANOVA) produced no statistically significant ($p < .05$) sources of difference in locus of control for any combination of

the mediating variables. This finding suggests that locus of control is a psychological variable which operates independently of certain physical or demographic factors.

Situational Powerlessness

The data shown in Table 1 also indicate that the principals perceive a low degree of situational powerlessness in their organizational work settings. The ANOVA findings suggested no statistically significant sources of variation that could be attributed to the main effects of the three mediating variables. However, it should be noted that the influence of setting, while not statistically significant, was clearly evident ($F = 3.00$, $df = 1,188$, $p < .10$). Also, the correlation coefficient indicated a significant association ($r = .11$, $p = <.05$) between elementary level and situational powerlessness.

Occupational Stress

The third major variable on which data are reported is the level of occupational stress perceived by the principals as a group. The data presented in Table 1 denote that the responding principals perceived a relatively low level of stress. The mean score provided in Table 1, which was approximately two and one-fourth standard deviations below the theoretical mean of 50 for the scale, underscores this conclusion. It is important to note that the relatively low level of stress reported by the respondents appears to provide additional field data (cf., Gorton, 1982)[24] which contradicts the popular belief that principals are experiencing

very high stress levels in their jobs.

Analysis of variance of the interactions among the mediating variables and occupational stress revealed that gender alone has a significant main effect on occupational stress ($F = 4.48$, $df = 1,188$, $p < .05$). However, some caution must be exercised in regards to generalizing conclusions based on the effects of gender on occupational stress. While the number of female principals ($N = 26$) who participated in this study closely reflect the population distribution, this number may not provide a statistically large enough sample to generalize the findings to other locales.

Effect of the Mediating Variables on the Hypothesized Linear Relationships

The role of the mediating variables in the interaction between the degree of internality (locus of control) and perceived occupational stress was examined using regression techniques. When the mediating variables were added into the regression equation, they accounted for only 1.3% of the variance and were not significant ($R = .11$, $R^2 = .01$, $F = .62$, $p < .05$). Therefore, the findings suggest that the mediating variables do not significantly affect the inverse relationship between the degree of internality and the level of perceived occupational stress.

Multiple regression analyses were also used to determine the role of setting, building level and gender in the interaction between perceived situational powerlessness and occupational stress. Once again, when the mediating variables were added to the regression equation, they were responsible for only 4.0% of

the variance and were not significant ($R = .20$, $R^2 = .04$, $F = 2.08$, $p < .05$). These results indicate that the mediating variables do not significantly influence the direct relationship between the degree of perceived situational powerlessness and the level of occupational stress.

Descriptive Data for Frequency and Persistency of Stress in Work-Role

Two additional survey items were included in the questionnaire to provide descriptive data specifically in regard to the principals' perceptions of the frequency and persistency of stress on the job. Table 2 provides a tabulation of the principals' responses for each of the above items. Of note is the finding that while the data indicated that the principals, as a group, perceived a relatively low level of occupational stress (cf., Table 1), the two survey items in Table 2 suggest that stress was still a major concern for a large segment of the respondents.

The data presented in Table 2 shows that one-third of the principals frequently experienced stressful situations in their jobs. Moreover, approximately one-half of them perceived stress as being a persistent feature of the principal's work-role. The responses included in Table 2 suggest that the issue of occupational stress is a major problem for a large segment of the responding principals, who either experienced it "often," or recognize it as a long term characteristic of their job. Additionally, the correlation coefficient identified a significant association ($r = .18$, $p < .005$) between male respondents and the perception

of stress as a persistent factor in the principal's organizational role. This correlation further supports this study's findings which indicate gender has a statistically significant effect on occupational stress.

TABLE 2

TABULATION OF RESPONDENTS' PERCEPTIONS OF THE FREQUENCY AND PERSISTENCY OF OCCUPATIONAL STRESS (N = 198)

Category Description	Perception of Frequency of Occupational Stress		Perception of Persistency of Occupational Stress	
	Number of Responses	Percentage of Responses	Number of Responses	Percentage of Responses
Rarely	14	7.1%	16	8.1%
Occasionally	82	41.4%	63	31.8%
May or May Not	36	18.2%	19	9.6%
Often	63	31.8%	83	41.9%
Almost Always	3	1.5%	17	8.6%
TOTAL	198	100.0%	198	100.0%

CONCLUSIONS

The data relevant to the three hypotheses and seven research questions are summarized in Table 3. This Table indicates that the hypothesis advanced in H_1, and the interactions predicted by hypotheses H_2 and H_3 were confirmed. The substantial strength of the relationship hypothesized in H_3 is clearly seen by the high observed correlation ($r = .61$) between the variables. Data

TABLE 3

SUMMARY OF THE DATA RELEVANT TO HYPOTHESES H_1 THROUGH H_4 AND RESEARCH QUESTIONS Q_1 THROUGH Q_7

Summary Statement of Hypothesis/Research Question	Observed Correlation	Correlation in the Predicted Direction	Hypothesis Confirmed at Significant Level	Summary of the Findings Research Questions
H_1: As a group, principals have a predominantly internally-oriented locus of control.			Hypothesis confirmed by mean locus of control score of 44.0	
H_2: The degree of internality (perceived locus of control) is inversely related to the level of perceived occupational stress.	$r = -.28$	yes	yes, $p < .01$	
H_3: The degree of perceived situational powerlessness is directly related to the level of perceived occupational stress.	$r = .61$	yes	yes, $p < .01$	
Q_1: Will male principals exhibit greater internality (perceived locus of control) than female principals?				To a limited degree, but not significant
Q_2: Will urban principals perceive higher levels of occupational stress than suburban or rural principals?				To a limited degree, but not significant

Summary Statement of Hypothesis/Research Question	Observed Correlation	Correlation in the Predicted Direction	Hypothesis Confirmed at Significant Level	Summary of the Findings Research Questions
Q_3: Will suburban principals perceive higher levels of occupational stress than rural principals?				To a limited degree, but not significant
Q_4: Will secondary principals perceive higher levels of occupational stress than elementary principals?				No, elementary principals perceived a higher level of stress than secondary principals, but not significant.
Q_5: Will male principals perceive higher levels of occupational stress than females?				Yes, $F = 4.48$, $df = 1,188$ $p < .05$
Q_6: Will the setting of the school, building level, or gender affect the inverse relationship between degree of internality and the level of occupational stress?				No, regression indicates the mediating variables accounted for only 1.3% of the variables and are not significant, $R = .11$, $R^2 = .01$, $F = .62$, $p < .05$
Q_7: Will the setting of the school, building level, or gender affect the direct relationship between the degree of perceived situational powerlessness and the level of occupational stress?				No, regression indicates mediating variables accounted for only 4.0% of the variance and are not significant, $R = .20$, $R^2 = .04$, $F = 2.08$, $p < .05$

pertaining to research questions Q_1 through Q_7 are also presented in Table 3. These questions focused primarily on the effects of the mediating variables on the major variables and the relationships hypothesized in H_2 and H_3.

Locus of Control

The descriptive data regarding perceived locus of control, which indicated that the principals, as a group, have a high degree of internalitywere consistent with expectations. The findings of the study confirm recent research (Valecha, 1972; Steers, 1981) which suggests that in organizational work settings, those individuals who occupy leadership positions will be more apt to evidence characteristics associated with internality on locus of control instruments. The finding that the mediating variables failed to produce any significant main effects on locus of control was consistent with existing literature (Lefcourt, 1976), which suggests that locus of control is a personality construct which operates independently of certain physical or demographic factors. In addition, the negative correlation that was found between the I subscale and both the P and C subscales adds further support to the "multidimensionality" research approach (Gurin et al., 1969; Lao, 1970; Mirels, 1970; Levenson, 1972) to locus of control.

The linear data which indicated that the degree of internality (perceived locus of control) on the part of the principal was inversely related to the level of perceived occupational stress was consistent with the research (Dohrenwend and Dohrenwend, 1974;

Rabkin and Streuning, 1976; Chan, 1977; Johnson and Sarason, 1979; and Ivancevich and Matteson, 1980) which suggest internality is a factor in influencing the level of stress perceived by individuals. Although this study does not allow for cause-effect conclusions, its results are supportive of the view that principals who exhibit low internality are more adversely affected by job stress, than are those who evidence a high degree of internality. On the basis of this finding, support is added to Seligman's (1975)[25] research and the conclusion that, over time if reinforced, low internality may be accompanied by a loss of motivation to take the necessary actions to increase control. If such a situation occurs, a principal might face the kind of debilitating anxiety and stress levels that could render him or her an ineffective educational manager.

Situational Powerlessness

The descriptive data for perceived situational powerlessness suggests that the principals generally felt they had sufficient job-decision latitude to carry out their managerial responsibilities. The fact that the correlation coefficient indicated a significant association between elementary level and situational powerlessness is worthy of note. These data imply the effects of bureaucracy on perceptions of powerlessness may be less than previously supposed. It had been expected that secondary principals would perceive greater powerlessness, and in turn more stress than elementary principals, because secondary school organizations being more complex and hierarchical offered a greater potential

for alienation and isolation. However, the reverse appeared to be the case. An explanation for this finding, may possibly be that the more complex, bureaucratic structure usually found in secondary schools may actually serve to insulate the principal, rather than expose him or her, to feelings of powerlessness. It accomplishes this by providing an organizational environment that creates a system of shared responsibility and authority involving department heads and instructional team leaders in an educational partnership with the principal. Therefore, when limits on decision-making authority are imposed by the board of education and/or superintendent, the frustrations of powerlessness are collectively borne on the back of this building-level bureaucracy, rather than as usually happens in most elementary school structures, on the shoulders of a single individual - the principal. Also, secondary principals control complex structures that are less likely to feel the influence of central office control. In this sense, bureaucracy can act as a "buffer" against environmental and hierarchical pressures on the principal.

The conclusion that the possession of power in educational organizations creates differences in the stressful nature of the work setting is consistent with the literature (Crozier, 1964; Drabek and Hass, 1969; Henry and Cassel, 1969; Zaleznik et al., 1977; Karasek, 1979; Cherniss, 1980), and is supported by the findings of this study. As the principal senses that his or her latitude in making decisions is being limited by the board and/or superintendent, and that the responsibilities of the job now exceed his or her role authority, job stress results. The

correlational data which indicated that the degree of perceived situational powerlessness on the part of the principal was directly related to the level of perceived occupational stress, underscores this conclusion. Thus, the degree of disparity between the reality of power the principal perceives to be permitted by superiors, and the expectancy of power he or she feels they deserve by virtue of their strategic role and location in the social space of their educational organization, appears to be an important psychological factor in determining the level of job stress the principal may experience.

The fact that the mediating variables did not significantly affect the direct relationship between situational powerlessness and occupational stress suggests it may be important to examine ways of modifying organizational climates and structures in order to lessen stress emanating from limits on decision-making. The organizational climate and structure prevailing in a school reflect its day to day routines and policies, the philosophy of its leadership, the distribution of power and information among its staff and the nature of its social-interpersonal environment. While any modifications in climate and structure to reduce situational powerlessness on the part of the principal must be tailored to the unique needs of each school, and may often be difficult to implement, the rewards are still substantial.

Occupational Stress

The fact that the descriptive data indicated principals are generally perceiving relatively low levels of occupational stress lends support to Gorton's (1982) findings, and appears to contradict

the popular assumption in much of the current stress literature which suggests that stress levels are increasing for organization managers like school principals. Additionally, this study provided data which revealed that one-third of the principals frequently experienced stressful situations in their work; and approximately one-half of them perceived stress as being a persistent feature of the principal's position. The apparent disparity between these two sets of data, as well as the need to examine the interrelationship between perceptions and actual behavior or performance under stressful circumstances, underscores the necessity for further research.

Finally, the observation that female principals perceived significantly less occupational stress than their male counterparts, merits a closer examination to determine linkage to actual levels of job performance. The implications for recruitment practices regarding women in the field of school administration are important if such a linkage can be firmly established.

IMPLICATIONS

The findings of the study have implications for several actions that school systems and principals can take in order to better cope with the sources of job stress. Some of these implications have a bearing on the pre-service phase of employment, during which time potential candidates for principalships are being evaluated and selected. Other implications address specific organizational strategies, or individual strategies, which may be developed and implemented in order to provide a healthier work

environment and improve the principal's chances for coping with potential stressors.

Pre-Service

Preparatory programs for school principals should train them for the kinds of stressful situations they will encounter on the job. Equipping potential principals with extensive interpersonal and organizational communication skills is an important first step. A thorough knowledge of how to properly diagnose and ameliorate organizational and individual factors which may contribute to job stress is also essential.

School district personnel charged with the hiring of principals should begin to pay more attention, during the selection and placement processes, to the "job-fit" between the individual, the particular assignment, and the work environment itself. Selection criteria should be expanded to include a consideration of such individual qualities as, tolerance for ambiguity, skills in handling interpersonal and role conflicts, and the ability to deal with work overload. The findings with regard to locus of control indicate that internally-oriented individuals may be better suited to handling the stresses inherent in the principal's work-role. Also, the finding that females perceive less job stress than males, offers significant encouragement for the increased hiring of female principals for both elementary and secondary schools.

Organizational Strategies

The findings which linked perceptions of powerlessness to stress suggest that school systems provide principals with enough authority and latitude necessary for carrying out their assigned responsibilities. Also, participation in decision-making increases job involvement and simultaneously reduces stress by lessening ambiguity and conflict. This may require a restructuring of the power distribution between the central office and the principal; and it will entail closer consultation and coordination with the superintendent.

School organizations may be restructured to encourage a team management approach to handling problems. These team efforts can focus on building group cohesiveness between all principals in the district, which can also provide social support in times of stress. Additionally, boards of education and superintendents can open up channels of communication so that principals are kept informed of policies and role expectations. Communication channels in the school should be cleared to provide an even distribution and access of information to all members of the organization's management team involved with decision-making. Boards of education may also encourage the superintendent and principals to negotiate acceptable role expectations and criteria for performance evaluation. These efforts can help reduce perceptions of powerlessness due to role ambiguity, isolation and lack of information required by the principal to carry out his or her assigned responsibilities.

School systems can sponsor counseling programs and seminars designed to help lead principals through several simulated stressful situations they might be expected to encounter on the job. Techniques for handling these situations could be explained and demonstrated. At the same time, every effort should be made to insure principals experience success in being able to control the events around them. This can help bolster their sense of internality, and combat the possibility of "learned helplessness." However, faddish approaches that offer easy cures to reduce administrator stress should be viewed with some skepticism. These methods can only offer, at best, temporary relief from stress; and they do not attack its deeper causes. Also, it should be recognized that a certain degree of positive stress, or eustress, may be desirable to motivate the individual on to peak performance. Therefore, school systems should help each principal to constantly search for his or her optimum stress level.

Individual Strategies

From the perspective of the school principal, the starting point for any stress management strategy ought to be an individual assessment of personal stress warning indicators. For this reason, a thorough understanding of the role that individual perception plays in stress phenomena is important. The manner in which a principal perceives his or her expectancy for control, decision-making power, and the interactions with other organization members, may directly influence both his or her recognizance of

the underlying causes of occupational stress and the specific responses that can be made to alleviate it. Therefore, the first step in stress management for the principal should be a self-awareness of one's limits and warning signs of potential stress.

Lastly, while the ability of one individual to alter the structure and climate of the entire educational organization may be limited, principals can volunteer to work with other members of the management team to explore job-design alternatives that could be recommended to the superintendent and board of education. Even if they are not fully instituted, the principal's initiatives will have brought him or her into more frequent contact with colleagues as they searched for solutions.

CONCLUDING REMARKS

This study has just taken the first steps in clarifying the relationships between perceived locus of control, situational powerlessness and occupational stress. Stress on the job affects performance; and it is especially critical for organizational managers. The responsibility for recognizing stress in himself or herself, as well as helping other organization members to deal with potential stressors in school settings rests squarely on both the organization's and principal's shoulders.

This is why the need to understand the sources of occupational stress, and to design and implement successful stress management strategies places a heavy burden on school organizations and the principals who lead them. But, it also offers a splendid

opportunity for both to creatively and collectively respond to the challenge, and significantly improve the quality of organizational life for all members.

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